

BACKGROUND INFORMATION DOCUMENT
FOR
AMENDMENT TO
REGULATIONS 310 CMR 7.00
FOR THE CONTROL OF AIR POLLUTION
IN THE

BERKSHIRE AIR POLLUTION CONTROL DISTRICT
PIONEER VALLEY AIR POLLUTION CONTROL DISTRICT
MERRIMACK VALLEY AIR POLLUTION CONTROL DISTRICT
METROPOLITAN BOSTON AIR POLLUTION CONTROL DISTRICT
CENTRAL MASSACHUSETTS AIR POLLUTION CONTROL DISTRICT
SOUTHEASTERN MASSACHUSETTS AIR POLLUTION CONTROL DISTRICT

STATUTORY AUTHORITY
M.G.L. c. 111, Sections 142A through 142N

PERCHLOROETHYLENE AIR EMISSIONS STANDARDS
FOR DRY CLEANING FACILITIES

MARCH 2008

I. SUMMARY

The Massachusetts Department of Environmental Protection (MassDEP) is proposing to adopt revisions to 310 CMR 7.26(10)-(16), its Environmental Results Program (ERP) perchloroethylene (perc) dry cleaning facility regulation (ERP-DC). The amendments incorporate and, in some instances expand on, the recently promulgated changes to the federal Maximum Available Control Technology (MACT) standards for perc dry cleaning facilities (40 CFR Part 63, Subpart M). In addition, MassDEP is taking this opportunity to reorganize and streamline the existing regulation format. See Attachment A for current ERP-DC regulations and Attachment B for proposed amendments to ERP-DC regulations.

Once promulgated, MassDEP will submit the amended regulations to the United States Environmental Protection Agency (EPA) pursuant to the provisions of 40 CFR Part 63, Subpart E, for a §112(l) equivalency determination. If MassDEP is successful in obtaining a §112(l) equivalency determination for its program, the duplicative state and federal recordkeeping and reporting requirements will be eliminated. If MassDEP does not obtain a program equivalency determination, owners and operators of perchloroethylene dry cleaners in Massachusetts will continue to be subject to both the federal program, 40 CFR Part 63, Subpart M requirements and the MassDEP ERP-DC program.

Massachusetts General Laws, Chapter 111, §§142A-142M is the enabling legislation that gives MassDEP the authority to adopt regulations to prevent, control or abate conditions of air pollution to protect public health and welfare. The Commonwealth's regulations for the control of air pollution are promulgated at 310 CMR 7.00 "Air Pollution Control."

II. BACKGROUND

Section 112 of the Clean Air Act (CAA), 42 USC §7412, requires EPA to promulgate maximum achievable control strategies for sources of toxic air emissions. Air toxics, also called hazardous air pollutants, are known or suspected to cause cancer or other serious health or environmental effects. The federal MACT standard for perc dry cleaning facilities (40 CFR Part 63, Subpart M), adopted in 1993, is one of those control strategies. Perc, also known as tetrachloroethylene and tetrachloroethene, is a solvent used in dry cleaning.¹ The federal standard established operational and design criteria for dry cleaning facilities to minimize fugitive emissions and exposure to perc by both the operator and the general public. EPA estimates that its 1993 standards prevent approximately 15,000 tons of perc from being emitted into the air annually nationally.² These emissions reductions resulted from increased use of alternative dry cleaning solvents, the replacement of older dry cleaning machines, and state and industry programs to improve machine efficiencies and reduce perc use.³ EPA's Science Advisory Board has identified perc as a possible to probable human carcinogen. Exposure to perc has been linked to the development of liver tumors in mice. Epidemiological studies have shown mixed results, with some studies reporting increased incidence of a variety of tumors and other studies not

¹ FINAL AMENDMENTS TO AIR TOXICS STANDARDS FOR PERCHLOROETHYLENE DRY CLEANERS FACT SHEET (USEPA, 2006)

² Ibid

³ Ibid

reporting carcinogenic effects. Exposure to perc also is associated with chronic, non-cancer health effects, including neurological effects in humans. Short-term exposures (from hours to a day or two) can result in loss of coordination; eye, nose and throat irritation, and headache.⁴

In a delegation agreement between MassDEP and EPA, dated November 28, 1995, MassDEP became the agency responsible for the implementation of the federal standard as it applies to major (potential to emit ≥ 10 tons per year (TPY) of perc) dry cleaning facilities. Currently there are no major perc dry cleaning facilities in Massachusetts. EPA remained the agency responsible for the implementation of the federal standard as it applied to area source (potential to emit < 10 TPY of perc) perc dry cleaning facilities; area source perc dry cleaning facilities were subject to both the state and federal regulations.

Under §112 of the CAA, each state may develop and submit to EPA for approval, a program for the implementation and enforcement of emission standards and requirements included in a federal MACT. In 1997, MassDEP adopted the current environmental results program dry cleaner (ERP-DC) regulation, 310 CMR 7.26(10) – (16) that addresses area source perc dry cleaning facilities. MassDEP has measured business compliance improvements in this sector over the past ten years. ERP is an innovative approach to improving and measuring the environmental performance of regulated groups or business sectors. It links compliance assistance with compliance self-certification and MassDEP on-site field inspections. ERP also measures regulated sector compliance changes over time. MassDEP submitted its ERP-DC to EPA for a §112(l) equivalency determination on October 24, 2001.

On September 16, 2002, EPA published its §112(l) equivalency determination for the current ERP-DC regulation in the Federal Register. The equivalency determination allowed MassDEP to substitute its regulation for the federal standards and streamlined the compliance requirements for the area source perc dry cleaning facilities in Massachusetts.

The current ERP-DC regulation parallels many of, and in some cases, is more stringent than, the 1993 federal MACT standards for perc dry cleaners. It replaced the 1982 reasonably available control technology (RACT) regulation, 310 CMR 7.18(13) for perc dry cleaners in Massachusetts. However, when EPA finalized amendments to its MACT standards in July 2006 (FR Vol. 71, No. 144) (the amendments), some Massachusetts dry cleaning facilities became subject to federal amendments, which are more stringent than the current ERP-DC regulation. EPA is the implementing agency for the amendments until MassDEP amends its regulations and obtains a new equivalency determination under §112(l).

MassDEP wishes to continue its successful ERP-DC program by incorporating, as appropriate, EPA's revisions to the federal MACT standards into its ERP-DC regulations. This will allow Massachusetts dry cleaners to satisfy with both federal and state requirements by complying with MassDEP's (ERP-DC). If MassDEP does not revise the ERP-DC regulation and receive a new §112(l) equivalency determination, owners and operators subject to the requirements of ERP-DC will continue to be subject to regulation by both MassDEP and EPA.

⁴ Ibid, pg 1

The technology used in perc dry cleaning industry evolved as a result of the environmental, economic and health benefits of capturing the spent perc. The “first generation” transfer machine, used exclusively until the late 1960’s, required the manual transfer of solvent-laden clothing between a separate washer and dryer, exposing the operator to high levels of vaporized perc⁵. The federal MACT standard, adopted in 1993, prohibited the installation of a new transfer machine as of September 22, 1993 and the recently amended federal MACT requires the shut down of any remaining “first generation” transfer machines on or before July 28, 2008.

The “second generation” dry cleaning machine, a vented dry-to-dry operation, uses a one-step process that eliminates clothing transfer⁶. These machines are non-refrigerated dry-to-dry machines, which vent the residual solvent vapors directly to the atmosphere or through a form of vapor recovery system during the aeration process. As a requirement of the 1993 federal MACT, a vented dry-to-dry machine installed prior to December 9, 1991 is required to be equipped with either a refrigerated condenser or a carbon adsorber.

Dry-to-dry machines installed after December 9, 1991, but before December 21, 2005, are required by the 1993 federal regulation to be closed loop and equipped with a refrigerated condenser. This is the “third generation” dry cleaning machine, which was available as early as the late 1970’s and early 1980’s.⁷ These machines are essentially closed systems, which are only open to the atmosphere (or work space) when the machine door is opened to load or remove the articles being cleaned.

For those dry-to-dry machines installed on or after December 21, 2005, the 2006 federal MACT and the MassDEP proposed amendments require the machine be equipped with both a carbon adsorber and refrigerated condenser. These “fourth generation” machines are the “third generation” machines equipped with a carbon adsorber.⁸ As a result of the additional control device, these machines are much more effective at capturing solvent vapors than the earlier models and minimize worker exposure to perc vapors.

The proposed amendments to ERP-DC incorporate and in some instances expand upon the federal MACT requirements. They impose new operational requirements at the dry cleaning facility depending on what type of cleaning machines are used at the facility and when and where the machine was installed. These new requirements will further reduce the exposure of operators to emissions of perc and are outlined in Section III and in Table 1.

Once adopted, MassDEP will submit the ERP regulations to EPA for a §112(l) equivalency determination. MassDEP expects to receive the equivalency determination prior to the federal compliance date to avoid duplicative reporting by the regulated community to both MassDEP and EPA.

⁵ DHHS (NIOSH) Publication No.97-156 October 1997

⁶ Ibid

⁷ Ibid

⁸ Ibid

III. PROPOSAL

Modification of 310 CMR 7.26(10) – (16) – DRY CLEANER ERP

MassDEP is taking this opportunity to reorganize the current ERP-DC regulation to enhance its readability and to incorporate or expand upon the federal requirements. The proposed regulation is structured so that applicability is clearly set forth and the requirements for the specific types of equipment flow plainly. This will enable owners and operators to easily understand their obligations. Table 1 compares in a chart-format the current regulations, the amended federal regulations and the changes MassDEP is proposing at this time.

The proposed MassDEP amendments to the ERP-DC require owners and operators of:

All dry cleaning facilities

Transfer machines:

- Cease operation of all transfer machines by July 28, 2008.
- Use specialized equipment weekly to detect perc leaks, repair such leaks and maintain records until such machines are eliminated.

Dry-to-dry machines installed on or prior to December 21, 2005:

- Use specialized equipment weekly to detect perc leaks, repair such leaks and maintain records.

Dry-to-dry machines installed after December 21, 2005:

- Be equipped with a secondary carbon adsorber (devices that reduce perc vapors exiting the dry cleaning machine as the machine door is opened) in addition to the refrigerated condenser, which was required under the 1993 rule.
- Use specialized equipment weekly to detect perc leaks, repair such leaks and maintain records.

Dry cleaning facilities located with a residence as defined by EPA:

Dry-to-dry machines installed before December 21, 2005:

- Meet the same monitoring, leak detection and repair, and recordkeeping requirements as those not co-located in a residential building.
- Cease operation of all perc dry cleaning operations on or before December 21, 2020

Dry-to-dry machines installed after [promulgation]:

- Eliminate the use of perc in the dry cleaning machine(s). The federal MACT standard banned the installation of perc dry cleaning machines co-located in a residential building on or after July 13, 2006. Perc machines installed in a residential building between July 13, 2006 and the promulgation date must cease operation by [2 months from promulgation].
- Use specialized equipment weekly to detect perc leaks, repair such leaks and maintain records until such machines are eliminated.

Dry-to-dry machines, which become co-located with a residence after [2 months after promulgation] but before December 21, 2020:

- Meet the same monitoring, leak detection and repair, and recordkeeping requirements as those not co-located in a residential building.
- Cease operation of the perc machine at the end of the useful life of the machine, not to exceed 15 years.

Dry cleaning facilities located with a sensitive receptor as defined by MassDEP: (see page 7 for definition of co-located)

Dry-to-dry machines, which are co-located as defined by MassDEP on or before [2 months of promulgation]:

- Meet the same monitoring, leak detection and repair, and recordkeeping requirements as those not co-located.
- Cease operation of all perc dry cleaning operations on or before December 21, 2020

Dry-to-dry machines, which become co-located as defined by MassDEP after [2 months after promulgation] but before December 21, 2020:

- Meet the same monitoring, leak detection and repair, and recordkeeping requirements as those not co-located.
- Cease operation of the perc machine at the end of the useful life of the machine, not to exceed 15 years.

MassDEP is NOT adopting the following requirements of the federal MACT regulations:

- The amendments addressing new dry-to-dry machines in co-residential operations installed between December 21, 2005 and July 13, 2006. MassDEP believes there are few, if any, co-residential perc dry cleaning machines installed between December 21, 2005 and July 13, 2006 in the Commonwealth. EPA will remain the lead agency for enforcing the federal MACT standard for any co-residential dry cleaners installed between these dates. 310 CMR 7.26(10)(e) states that these operations are not subject to the Massachusetts regulations and directs them to the federal MACT.
- The amendment requiring owners and operators of subject dry cleaning operations to notify the implementing agency by July 28, 2008, that they are complying with the requirements contained in the revised MACT standard. MassDEP is proposing to retain the current ERP-DC compliance certification date of September 15. MassDEP will revise the ERP-DC certification due on or before September 15, 2008, to incorporate the new federal amendment certification requirements.
- The amendments requiring the owners and operators of a machine equipped with high and low pressure gauges to use the procedure specified in the federal MACT and replicated at 310 CMR 7.26(14)(a)1. as the preferred method of documenting proper operation of the machine. Specifically, MassDEP is allowing the owners and operators of a dry cleaning system equipped with a refrigerated condenser the option of measuring the high and low pressure and comparing those values with the manufacturers' recommended values or measure the temperature of the air-perc gas-vapor stream on the outlet side of the refrigerated condenser on a dry-to-

dry machine, dryer, or reclaimer weekly with a temperature sensor to determine if it is equal to or less than 45°F (7.2°C) as currently required.

- The additional recordkeeping and monitoring requirements in the federal MACT regulations for area source (ERP-DC sized facilities) dry-to-dry machines equipped with a secondary carbon adsorber installed on or after December 21, 2005. In discussions with EPA, MassDEP learned that EPA finalized the monitoring requirements for area source carbon adsorbers but had not proposed them in the December 21, 2005 Federal Register. In the December 21, 2005 proposed rule, Section 63.322(o)(2) was for major sources only. EPA plans to amend the final rule to remove the requirement for area source carbon adsorbers required by Section 63.322(o)(2) to conduct this monitoring. However, until EPA makes this change, owners and operators are required to conduct this monitoring. If EPA does not remove these provisions from its rule and MassDEP's rule does not include them, EPA would need to determine whether MassDEP's rule is holistically equivalent without these monitoring requirements in order to approve it as a substitute. Until EPA makes its equivalency determination or deletes the requirement, owners and operators would be required to follow the federal regulations.

As of the 2006 ERP-DC compliance certification cycle, there are four “first generation” transfer machines remaining in Massachusetts. The proposed amendments to the regulations require these machines to be removed on or before July 28, 2008. As stated earlier, the federal MACT banned the installation of this type of dry cleaning machine in 1992, therefore these machines will be at or beyond the end of the manufacturers’ and industry experts’ projected life span for a dry cleaning machine, and the ban on their operation will align with the natural replacement of the machines. As outlined above, MassDEP’s proposal incorporates this requirement.

MassDEP is proposing to expand the federal requirements for co-residential dry cleaning facilities to include those operations ‘co-located’ with other sensitive populations such as *licensed day care centers, health care facilities, prisons, elementary schools, middle schools or high schools or children's pre-schools, senior centers or youth centers*. This is in agreement with MassDEP’s comment letter of March 22, 2006 submitted to EPA on their draft amendments. To address this, MassDEP is proposing for adoption the following definition in lieu of the federal definition of co-residential:

Co-located means a dry cleaning facility located in a building with a residence, a licensed day care center, a health care facility, a prison, an elementary school, a middle or high school or a children's pre-school, a senior center or a youth center.

MassDEP’s proposal includes expanding the ban on installation of a perc dry cleaning machine in a building where the operation would be co-located with one or more of the sensitive populations outlined above. The ban on installation would take effect two months after promulgation. A dry cleaning facility co-located prior to that date would cease operation on or before December 21, 2020. A perc dry cleaning facility, which becomes ‘co-located’ (e.g. a day care operation occupies the adjacent office space) after that date but prior to December 21, 2020, would cease operation at the end of the useful life of the machine, not to exceed 15 years.

MassDEP specifically solicits comment on this expansion of the more restrictive requirements to include operations located with sensitive populations beyond residences. The owners and operators of perc dry cleaning facilities do have the option of installing “non-perc” machines in these co-locations.

IV. ECONOMIC IMPACTS

The amendments incorporate, as described previously, the recently promulgated federal standards. If MassDEP is successful in obtaining §112(l) equivalency for its program, the duplicative state and federal recordkeeping and reporting requirements will be eliminated. If MassDEP does not revise the ERP-DC regulation, owners and operators of area source ERP-DC will continue to be subject to the federal program, 40 CFR Part 63, Subpart M requirements and the current ERP-DC program. In general, amending the MassDEP regulations will not have an economic impact on the industry beyond that already imposed by the amended federal program.

The exception to this is where MassDEP is requiring the owner and operator of a dry cleaning facility located with a sensitive receptor to also comply with the co-residential requirements of the federal MACT as proposed in the attached amendment document. MassDEP is soliciting comment on this requirement. One representative of the dry cleaner association expects the expansion of this applicability will double the impact of the more stringent requirements. In other words, the establishment of broader co-located requirements would impact 10% of the area source dry cleaners covered by these regulations. MassDEP believes strongly that the sensitive receptors addressed by the expansion of the applicability to co-located facilities (a licensed day care center, a health care facility, a prison, an elementary school, a middle or high school or a children's pre-school, a senior center or a youth center) should be protected.

V. ENVIRONMENTAL IMPACTS

The amendments incorporate the recently promulgated federal standards and in several instances, expand the requirements to further reduce fugitive emissions of perc. According to an EPA fact sheet, the 1993 standards prevent approximately 15,000 tons of perc from being emitted into the air annually and the recent amendments will prevent another 400 tons of perc from being emitted each year nationally.

VI. IMPACTS ON OTHER PROGRAMS

Toxics Use Reduction

Implementation of toxics use reduction is a Department-wide priority. Toxics use reduction is defined as in-plant practices that reduce or eliminate the total mass of contaminants discharged to the environment. These amendments will reduce the use of perc in Massachusetts.

TABLE I: Comparison of Existing ERP-DC with Published DC MACT Amendments (promulgated July 27, 2006)				
Requirement	MassDEP ERP-DC CURRENT REQUIREMENTS (area sources)	EPA MACT - Area Sources as promulgated July 27, 2006	EPA MACT – Co-Residential Area Sources (located in a building with a residence) as promulgated July 27, 2006	Amendments to update the current ERP-DC (310 CMR 7.26(10)-(16)) to maintain equivalency with MACT
Applicability	All area sized dry cleaning operations	- <u>Existing machine</u> : installed before 12/21/05 - <u>New machine</u> : installed after 12/21/05.	- <u>Existing machine</u> : installed before 12/21/05 - <u>New machine</u> : installed after 7/13/06. - * Perc machines installed between 12/21/05 – 7/13/06 subject to more stringent standards.	- Proposing the new requirements for co-residential BUT not adopting the requirements as applicable to co-residential machines installed between 12/21/05-7/13/06
Leak Check / Repair	Enhanced leak detection & repair (LDAR) – All machines.	Enhanced leak detection & repair (LDAR) – All machines. Defines vapor leak: perc concentration >25 ppm by volume.	Enhanced leak detection & repair (LDAR) – All machines. Defines vapor leak: perc concentration >25 ppm by volume.	- Minor changes needed to comply. Current regulation more stringent than initial MACT.
Transfer Machines	-No new installations after 9/93. -Existing machines allowed (only ~ 4 in MA)	<u>No new</u> installations. <u>All transfer machines</u> prohibited after 7/27/08.	<u>No new</u> installations. <u>All transfer machines</u> prohibited after 7/27/08.	- Requiring all transfer machines cease operation by 7/28/08
Dry-Dry Technology Standards	-Refrigerated Condenser (primary control) on all machines.	- <u>Existing machines</u> – Refrigerated Condenser - <u>New machines</u> – Refrigerated condenser and carbon adsorber (secondary control)	<u>New perc machines</u> prohibited after 7/13/06. <u>Existing perc machines</u> – Refrigerated condenser and ban on perc use 12/21/2020 <u>Machines installed 12/21/05-7/13/06</u> –Refrigerated condenser, carbon adsorber, and vapor barrier and no perc use after 7/27/09.	- Adopting the federal requirements BUT not adopting the requirements as applicable to co-residential machines installed between 12/21/05-7/13/06 - All co-located perc machines must cease operation by December 21, 2020
ERP-DC Compliance Certification	Compliance Certification – due 9/15.			- MassDEP requires a compliance certification on or before 9/15, currently annually but 310 CMR 70.03 allows for less frequent submittals..
MACT Compliance Status Reports		File with EPA or delegated state by 7/27/08 the operation is in compliance with MACT	File with EPA or delegated state by 7/27/08 that the operation is in compliance with MACT	-MassDEP is retaining the current 9/15compliance date and is updating the compliance certification to incorporate EPA requirements
Compliance Dates	At start up. The owner or operator has until September 15 of the year of installation to submit the initial cert.	- <u>Existing machines</u> – compliance by 7/27/08. - <u>New machines</u> – on start-up.	- <u>Existing machines</u> – compliance by 7/27/08. - <u>New machines</u> – compliance on start-up or by 7/27/06 whichever is later.	MassDEP will require notification of status changes in addition to the current compliance certification.
* Co-residential perc machines installed between 12/21/05 (proposed MACT) and 7/13/06 (final MACT) must be operated while enclosed in a vapor barrier, with a condenser and carbon adsorber (primary and secondary controls). AND they must eliminate perc use after 7/27/09. EPA will remain responsible for enforcing these requirements				

Air Toxics

In the past, air pollution control programs have focused on the six criteria pollutants: particulate matter, nitrogen oxides, sulfur dioxide, ozone, carbon monoxide, and lead. In recent years, concern has been raised over the components of air pollution that are not specifically regulated by programs developed to control criteria pollutants. These compounds are collectively known as air toxics. The health effects of air toxics are wide ranging and can vary from long-term carcinogenic effects to short-term adverse health effects.

The CAA requires the EPA to promulgate control strategies for sources of toxic air emissions. The federal MACT standard is one of those standards. The Department intends to implement those standards as appropriate for Massachusetts, as promulgated by the EPA. EPA's 1993 standards prevent approximately 15,000 tons of perc from being emitted into the air annually. These emissions reductions resulted from increased use of alternative dry cleaning solvents, the replacement of older dry cleaning machines, and state and industry programs to improve machine efficiencies and reduce perc use. According to EPA estimates, the 2006 federal amendments will prevent another 400 tons of perc from being emitted each year nationally.

Impacts on Cities and Towns (Proposition 2 1/2)

Pursuant to Executive Order 145, the Department must assess the fiscal impact of new regulations on the Commonwealth's municipalities. The Executive Order was issued in response to Proposition 2 1/2. MGL c. 29 § 27C(a) that requires the state to reimburse municipalities for costs incurred as a consequence of new state laws and regulations. Review of the MassDEP ERP-DC data indicates that there are no perc dry cleaning operations owned or operated by any municipalities. Therefore, there is no impact on the Commonwealth's municipalities as a result of these proposed changes.

MEPA

This proposed action is "categorically exempt" from the "Regulations Governing the Preparation of Environmental Impact Reports", 301 CMR 11.00, because the proposed amendments will result in an overall increase in emission controls. All reasonable measures have been taken to minimize adverse impacts.

Agricultural Impacts

Massachusetts General Laws, Chapter 30A, Section 18 requires state agencies to evaluate the impact of proposed programs on agriculture within the Commonwealth. As the proposed amendments affect only certain small businesses, MassDEP has determined that the proposed regulations will have no adverse impact on agriculture in Massachusetts.

VII. IMPLEMENTATION

These amendments are not expected to add to MassDEP's workload since there are no major changes in the existing regulations as a result of these amendments. Where they add additional requirements, the amendments generally upgrade the enforceability of the regulations. There are initial workload increases to update the outreach documentation and eDEP on line certification, but that is a short-term workload increase.

VIII. PUBLIC PARTICIPATION

As required by M.G.L. c 30A, the Mass DEP gives notice and provides the opportunity to review background and technical information at least 21 days prior to proposing the regulation amendments at a public hearing. Public hearings will be held: April 30, 2008 in Springfield and May 1, 2008 in Boston. The hearing record will be kept open until the close of business on May 12, 2008.

ATTACHMENT A
CURRENT ERP DRY CLEANER REGULATION
310 CMR 7.26(10)-(16)

7.26: Industry Performance Standards

((1) - (9) RESERVED)

(10) Perchloroethylene Air Emissions Standards for Dry Cleaning Facilities - Applicability.

(a) The provisions of 310 CMR 7.26(10) through (16) apply to the owner or operator of each dry cleaning facility that uses perchloroethylene that is not a major source.

(b) Each dry cleaning system shall be in compliance with the provisions of 310 CMR 7.26(10) through (16) beginning on May 2, 1997 or immediately upon startup, whichever is later except as provided in 310 CMR 7.26(12)(a) and (b) also referenced.

(c) A dry cleaning facility is a major source if the facility emits or has the potential to emit more than ten tons per year of perchloroethylene to the atmosphere. In lieu of measuring a facility's potential to emit perchloroethylene emissions or determining a facility's potential to emit perchloroethylene emissions, a dry cleaning facility is a major source if:

1. It includes only dry-to-dry machine(s) and has a total yearly perchloroethylene consumption greater than 2,100 gallons as determined according to 310 CMR 7.26(14)(c); or
2. It includes only transfer machine system(s) or both dry-to-dry machine(s) and transfer machine system(s) and has a total yearly perchloroethylene consumption greater than 1800 gallons as determined according to 310 CMR 7.26(14)(c).

(d) A dry cleaning facility is an area source if it does not meet the conditions of 310 CMR 7.26(10)(c).

(e) If the total yearly perchloroethylene consumption of a dry cleaning facility determined according to 310 CMR 7.26(14)(c) is initially less than the amounts specified in 310 CMR 7.26(10)(c), but then exceeds those amounts, the dry cleaning facility becomes a major source and all dry cleaning systems located at that dry cleaning facility must comply with the appropriate requirements for major sources under 40 CFR 63 Subpart M by 180 calendar days from the date that the facility exceeded the amount specified, or by May 2, 1997 whichever is later.

(f) All coin-operated dry cleaning machines are exempt from the requirements of 310 CMR 7.26(10) through (16).

(11) Definitions. The definitions found in 310 CMR 7.00 apply to 310 CMR 7.26(10) through (16). The following words and phrases shall have the following meanings as they appear in 310 CMR 7.03(14) and 7.26(10) through (16). Where a term is defined in the 310 CMR 7.00 Definitions section and the definition also appears in 310 CMR 7.26(11), the definition in 310 CMR 7.26(11) controls for 310 CMR 7.03(14) and 7.26(10) through (16).

Ancillary equipment means the equipment used with a dry cleaning machine in a dry cleaning system including, but not limited to, emission control devices, pumps, filters, muck cookers, stills, solvent tanks, solvent containers, water separators, exhaust dampers, diverter valves, interconnecting piping, hoses, and ducts.

Articles mean clothing, garments, textiles, fabrics, leather goods, and the like, that are dry cleaned.

Area source means any perchloroethylene dry cleaning facility that meets the conditions of 310 CMR 7.26(10)(d).

Carbon adsorber means a bed of activated carbon into which an air-perchloroethylene gas-vapor stream is routed and which adsorbs the perchloroethylene on the carbon.

Coin-operated dry cleaning machine means a dry cleaning machine that is operated by the customer (that is, the customer places articles into the machine, turns the machine on, and removes articles from the machine).

Colorimetric detector tube means a glass tube (sealed prior to use), containing material impregnated with a chemical that is sensitive to perchloroethylene and is designed to measure the concentration of perchloroethylene in air.

Construction, for purposes of 310 CMR 7.26(10) through (16), means the fabrication (onsite), erection, or installation of a dry cleaning system subject to 310 CMR 7.26(10) through (16).

Desorption means regeneration of a carbon adsorber by removal of the perchloroethylene adsorbed on the carbon.

Diverter valve means a flow control device that prevents room air from passing through a refrigerated condenser when the door of the dry cleaning machine is open.

Dry cleaning means the process of cleaning articles using perchloroethylene.

Dry cleaning cycle means the washing and drying of articles in a dry-to-dry machine or transfer machine system.

Dry cleaning facility means an establishment with one or more dry cleaning systems.

Dry cleaning machine means a dry-to-dry machine or each machine of a transfer machine system.

Dry cleaning machine drum means the perforated container inside the dry cleaning machine that holds the articles during dry cleaning.

Dry cleaning system means a dry-to-dry machine and its ancillary equipment or a transfer machine system and its ancillary equipment.

Dryer means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see reclaimer).

Dry-to-dry machine means a one-machine dry cleaning operation in which washing and drying are performed in the same machine.

Exhaust damper means a flow control device that prevents the air-perchloroethylene gas-vapor stream from exiting the dry cleaning machine into a carbon adsorber before room air is drawn into the dry cleaning machine.

Filter means a porous device through which perchloroethylene is passed to remove contaminants in suspension. Examples include, but are not limited to, lint filter (button trap), cartridge filter, tubular filter, regenerative filter, prefilter, polishing filter, and spin disc filter.

Heating coil means the device used to heat the air stream circulated from the dry cleaning machine drum, after perchloroethylene has been condensed from the air stream and before the stream reenters the dry cleaning machine drum.

Major source means any dry cleaning facility that meets the conditions of 310 CMR 7.26(10)(c).

Muck cooker means a device for heating perchloroethylene-laden waste material to volatilize and recover perchloroethylene.

Perceptible leaks mean any perchloroethylene vapor or liquid leaks that are obvious from:

- (a) the odor of perchloroethylene;
- (b) visual observation, such as pools or droplets of liquid; or
- (c) the detection of gas flow by passing the fingers over the surface of equipment.

Perchloroethylene consumption means the total volume of perchloroethylene purchased based upon purchase receipts or other reliable measures.

Reclaimer means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see dryer).

Reconstruction, for purposes of 310 CMR 7.26(10) through (16) means replacement of a washer, dryer, or reclaimer; or replacement of any components of a dry cleaning system to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new source.

Refrigerated condenser means a vapor recovery system into which an air-perchloroethylene gas-vapor stream is routed and the perchloroethylene is condensed by cooling the gas-vapor stream.

Refrigerated condenser coil means the coil containing the chilled liquid used to cool and condense the perchloroethylene.

Residence means any dwelling or housing in which people reside, excluding short-term housing that is occupied by the same person for a period of less than 180 days (such as a hotel room).

Room enclosure means a stationary structure that encloses a transfer machine system, and is vented to a carbon adsorber or an equivalent control device during operation of the transfer machine system.

Source, for purposes of 310 CMR 7.26(10) through (16), means each dry cleaning system.

Still means any device used to volatilize and recover perchloroethylene from contaminated perchloroethylene.

Temperature sensor means a thermometer or thermocouple used to measure temperature.

Transfer machine system means a multiple-machine dry cleaning operation in which washing and drying are performed in different machines. Examples include, but are not limited to:

- (a) a washer and dryer(s);
- (b) a washer and reclaimer(s); or
- (c) a dry-to-dry machine and reclaimer(s).

Washer means a machine used to clean articles by immersing them in perchloroethylene. This includes a dry-to-dry machine when used with a reclaimer.

Water separator means any device used to recover perchloroethylene from a water-perchloroethylene mixture.

Year or Yearly means any consecutive 12-month period of time.

(12) Control Requirements for Dry Cleaning Systems.

(a) The owner or operator of each dry cleaning system installed prior to April 18, 1997 shall comply with either 310 CMR 7.26(12)(a)1. or (a)2., except as provided for in 310 CMR 7.26(12)(b).

1. Route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a refrigerated condenser or an equivalent control device. The refrigerated condenser must be operating at all times during the cycle.
2. Route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a carbon adsorber installed on the dry cleaning machine prior to September 22, 1993 if the dry cleaning system is either a transfer machine installed before September 22, 1993 or a dry-to-dry machine installed before December 9, 1991.

(b) The owner or operator of any dry cleaning system and its ancillary equipment installed on or after September 22, 1993, shall comply with 310 CMR 7.26(12)(b) instead of 310 CMR 7.26(12)(a)1. or (a)2. However, for a system installed between September 22, 1993 and May 2, 1997, the owner or operator has until November 2, 1997 to comply with 310 CMR 7.26(12)(b) instead of 310 CMR 7.26(12)(a)1. or (a)2.

(N.B. Installation of transfer machines after September 22, 1993 was prohibited under 40 CFR 63 Subpart M.)

1. Shall route the air-perchloroethylene gas-vapor stream contained within each dry cleaning machine through a properly operated and maintained refrigerated condenser or an equivalent control device; and
2. Shall eliminate any emission of perchloroethylene during the transfer of articles between the washer and dryer(s).

(13) Operation and Maintenance Requirements.

(a) The owner or operator shall close the door of each dry cleaning machine immediately after transferring articles to or from the machine, and shall keep the door closed at all other times except during maintenance operations.

(b) The owner or operator of each dry cleaning system shall operate and maintain the system according to the manufacturers' specifications and recommendations.

(c) Each refrigerated condenser used for the purposes of complying with 310 CMR 7.26(12)(a) or (b) and installed on a dry-to-dry machine, dryer, or reclaimer:

1. Shall be operated to not vent or release the air-perchloroethylene gas-vapor stream contained within the dry cleaning machine to the atmosphere while the dry cleaning machine drum is rotating;
2. Shall be monitored according to 310 CMR 7.26(14)(a)1.; and
3. Where air is pulled through the door when the door is opened after the cycle, then it shall be operated with a diverter valve, which prevents air drawn into the dry cleaning machine when the door of the machine is open from passing through the refrigerated condenser.
4. The temperature of the air-perchloroethylene gas-vapor stream at the end of the cool down cycle on the outlet side of the refrigerated condenser on a dry-to-dry machine, dryer, or reclaimer shall be equal to or less than 45°F (7.2°C).

(d) Each refrigerated condenser used for the purpose of complying with 310 CMR 7.26(12)(a) and installed on a washer:

1. Shall be operated to not vent the air-perchloroethylene gas-vapor contained within the washer to the atmosphere until the washer door is opened;
2. Shall be monitored according to 310 CMR 7.26(14)(a)2.; and
3. Shall not use the same refrigerated condenser coil for the washer that is used by a dry -to-dry machine, dryer, or reclaimer.
4. The temperature difference between the temperature of the air-perchloroethylene gas-vapor stream entering the refrigerated condenser on a washer and the temperature of the air-perchloroethylene gas-vapor stream exiting the refrigerated condenser on the washer shall be greater than or equal to 20°F (11.1°C).

(e) Each carbon adsorber used for the purposes of complying with 310 CMR 7.26(12)(a):

1. Shall not be bypassed to vent or release any air-perchloroethylene gas-vapor stream
2. to the atmosphere at any time; and
3. Shall be monitored according to the applicable requirements in 310 CMR 7.26(14)(b).

(f) If parameter values monitored under 310 CMR 7.26(13)(c), (d), or (e) do not meet the values specified in 310 CMR 7.26(14)(a), or (b) adjustments or repairs shall be made to the dry cleaning system or control device to meet those values. If repair parts must be ordered, either a written or verbal order for such parts shall be initiated within two working days of detecting such a parameter value. Such repair parts shall be installed within five working days after receipt.

(g) The owner or operator of a dry cleaning system shall drain all cartridge filters in their housing, or other sealed container, for a minimum of 24 hours, or shall treat such filters in an equivalent manner, before removal from the dry cleaning facility.

(h) The owner or operator of dry cleaning system shall store all perchloroethylene and wastes that contain perchloroethylene in solvent tanks or solvent containers with no perceptible leaks.

(i) The owner or operator of a dry cleaning system shall inspect the following components weekly for perceptible leaks while the dry cleaning system is operating:

1. Hose and pipe connections, fittings, couplings, and valves;
2. Door gaskets and seatings;
3. Filter gaskets and seatings;

4. Pumps;
5. Solvent tanks and containers;
6. Water separators;
7. Muck cookers;
8. Stills;
9. Exhaust dampers;
10. Diverter valves (if required); and
11. Cartridge filter housings.

(j) The components identified in 310 CMR 7.26(13)(i) of the dry cleaning system must be inspected, at least weekly, for vapor leaks using one of the following methods for detecting vapor leaks:

1. a halogenated-hydrocarbon detector; or
2. a portable gas analyzer; or
3. an air sampling pump and colorimetric tube; or
4. an alternative method approved by the Department.

(k) The owner or operator of a dry cleaning system shall repair all leaks detected under 310 CMR 7.26(13)(i) and (j) within 24 hours. If repair parts must be ordered, either a written or verbal order for those parts shall be initiated within two working days of detecting such a leak. Such repair parts shall be installed within five working days after receipt.

(14) Test methods and monitoring.

(a) When a refrigerated condenser is used to comply with 310 CMR 7.26(12)(a)1. or (b)1.:

1. The owner or operator shall measure the temperature of the air-perchloroethylene gas-vapor stream on the outlet side of the refrigerated condenser on a dry-to-dry machine, dryer, or reclaimer weekly with a temperature sensor to determine if it is equal to or less than 45°F (7.2°C). The temperature sensor shall be used according to the manufacturer's instructions and shall be designed to measure a temperature of 45°F (7.2°C) to an accuracy of + 2 °F (+ 1.1°C).
2. The owner or operator shall calculate the difference between the temperature of the air-perchloroethylene gas-vapor stream entering the refrigerated condenser on a washer and the temperature of the air-perchloroethylene gas-vapor stream exiting the refrigerated condenser on the washer weekly to determine that the difference is greater than or equal to 20°F (11.1°C).
 - a. Measurements of the inlet and outlet streams shall be made with a temperature sensor. Each temperature sensor shall be used according to the manufacturer's instructions, and designed to measure at least a temperature range from 32°F (0°C) to 120°F (48.9°C) to an accuracy of + 2 °F (+ 1.1 °C).
 - b. The difference between the inlet and outlet temperatures shall be calculated weekly from the measured values.

(b) When a carbon adsorber is used to comply with 310 CMR 7.26(12)(a)2. the owner or operator shall measure the concentration of perchloroethylene in the exhaust of the carbon adsorber weekly to determine that the perchloroethylene concentration in the exhaust is equal to or less than 100 parts per million by volume. The measurement shall be taken while the dry cleaning machine is venting to that carbon adsorber at the end of the last dry cleaning cycle prior to desorption of that carbon adsorber. The owner or operator shall:

1. Use a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of perchloroethylene in air to an accuracy of + 25 parts per million by volume; and
2. Use the colorimetric detector tube according to the manufacturer's instructions; and

3. Provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least eight stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and two stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet, or outlet.

(c) When calculating yearly perchloroethylene consumption for the purpose of demonstrating applicability according to 310 CMR 7.26(10), the owner or operator shall perform the following calculation on the first day of every month:

1. Sum the volume of all perchloroethylene purchases made in each of the previous 12 months, as recorded in the log described in 310 CMR 7.26(15)(d)1.
2. If no perchloroethylene purchases were made in a given month, then the perchloroethylene consumption for that month is zero gallons.
3. The total sum calculated in 310 CMR 7.26(14)(c) is the yearly perchloroethylene consumption at the facility. The perchloroethylene consumption may be determined using an alternative method approved by the Department and EPA.

(15) Recordkeeping and Reporting Requirements.

(a) Each owner or operator of a dry cleaning facility that did not notify the Administrator in writing by May 2, 1997 shall notify the Department in writing by November 2, 1997 and provide the following information:

1. The name and address of the owner or operator;
2. The address (that is, physical location) of the dry cleaning facility;
3. A brief description of the type of each dry cleaning machine at the dry cleaning facility;
4. Documentation as described in 310 CMR 7.26(14)(c) of the yearly perchloroethylene consumption at the dry cleaning facility for the previous year to demonstrate applicability according to 310 CMR 7.26(10); or an estimation of perchloroethylene consumption for the previous year to estimate applicability with 310 CMR 7.26(10); and
5. A description of the type of control device(s) that will be used to achieve compliance with 310 CMR 7.26(12)(a) or (b) and whether the control device(s) is currently in use or will be purchased.

(b) Each owner or operator of a dry cleaning facility who did not submit to the Administrator by May 2, 1997 by registered mail shall, by November 2, 1997, submit to the Department by registered mail a notification of compliance status providing the following information and signed by a responsible official who shall certify its accuracy:

1. The yearly perchloroethylene solvent consumption limit based upon the yearly solvent consumption calculated according to 310 CMR 7.26(14)(c);
2. Whether or not they are in compliance with each applicable requirement of 310 CMR 7.26(12) and (13); and
3. All information contained in the statement is accurate and true.

(c) Each owner or operator of an area source dry cleaning facility that exceeds the solvent consumption limit contained in 310 CMR 7.26(10)(c) shall submit to the Department by registered mail on or before the 30th day following the compliance dates specified in 310 CMR 7.26(10)(e), a notification of compliance status providing the following information and signed by a responsible official who shall certify its accuracy:

1. The new yearly perchloroethylene solvent consumption limit based upon the yearly solvent consumption calculated according to 310 CMR 7.26(14)(c);
2. Whether or not they are in compliance with each applicable requirement of 40 CFR 63 Subpart M; and
3. All information contained in the statement is accurate and true.

(d) Each owner or operator of a dry cleaning facility shall keep receipts of perchloroethylene purchases and a log of the following information and maintain such information on site for at least one year and show it upon request for a period of at least three years:

1. The volume of perchloroethylene purchased each month by the dry cleaning facility as recorded from perchloroethylene purchases; if no perchloroethylene is purchased during a given month then the owner or operator would enter zero gallons into the log;
2. The calculation and result of the yearly perchloroethylene consumption determined on the first day of each month as specified in 310 CMR 7.26(14)(c);
3. The dates when the dry cleaning system components are inspected for perceptible leaks, as specified in 310 CMR 7.26(13)(i) or (j), and the name or location of dry cleaning system components where perceptible leaks are detected;
4. The dates of repair and records of written or verbal orders for repair parts to demonstrate compliance with 310 CMR 7.26(13)(f) or (k);
5. The date and temperature sensor monitoring results, as specified in 310 CMR 7.26(14) if a refrigerated condenser is used to comply with 310 CMR 7.26(12)(a) or (b); and
6. The date and colorimetric detector tube monitoring results, as specified in 310 CMR 7.26(14), if a carbon adsorber is used to comply with 310 CMR 7.26(12)(a)2.

(e) Each owner or operator of a dry cleaning facility shall retain onsite a copy of the design specifications and the operating manuals for each dry cleaning system and each emission control device located at the dry cleaning facility.

(f) Each owner or operator of a dry cleaning facility shall submit to the Department a compliance certification in accordance with 310 CMR 70.00.

(16) Determination of Equivalent Emission Control Technology.

(a) Any person requesting that the use of certain equipment or procedures be considered equivalent to the requirements under 310 CMR 7.26(12) and (13) shall collect, verify, and submit to the Administrator the following information to show that the alternative achieves equivalent emission reductions:

1. Diagrams, as appropriate, illustrating the emission control technology, its operation and integration into or function with dry-to-dry machine(s) or transfer machine system(s) and their ancillary equipment during each portion of the normal dry cleaning cycle;
2. Information quantifying vented perchloroethylene emissions from the dry-to-dry machine(s) or transfer machine system(s) during each portion of the dry cleaning cycle with and without the use of the candidate emission control technology;
3. Information on solvent mileage achieved with and without the candidate emission control technology. Solvent mileage is the average weight of articles cleaned per volume of perchloroethylene used. Solvent mileage data must be of continuous duration for at least one year under the conditions of a typical dry cleaning operation. This information on solvent mileage must be accompanied by information on the design, configuration, operation, and maintenance of the specific dry cleaning system from which the solvent mileage information was obtained;
4. Identification of maintenance requirements and parameters to monitor to ensure proper operation and maintenance of the candidate emission control technology;
5. Explanation of why this information is considered accurate and representative of both the short-term and the long-term performance of the candidate emission control technology on the specific dry cleaning system examined;

6. Explanation of why this information can or cannot be extrapolated to dry cleaning systems other than the specific system(s) examined; and
7. Information on the cross-media impacts (to water and solid waste) of the candidate emission control technology and demonstration that the cross-media impacts are less than or equal to the cross-media impacts of a refrigerated condenser.

(b) For the purpose of determining equivalency to control equipment required under 310 CMR 7.26(12) and (13) the Administrator will evaluate the petition to determine whether equivalent control of perchloroethylene emissions has been adequately demonstrated.

(c) Where the Administrator determines that certain equipment and procedures may be equivalent, the Administrator will publish a notice in the *Federal Register* proposing to consider this equipment or these procedures as equivalent. After notice and opportunity for public hearing, the Administrator will publish the final determination of equivalency in the *Federal Register*.

ATTACHMENT B
PROPOSED ERP DRY CLEANER REGULATION
310 CMR 7.26(10)-(16)

7.26: Industry Performance Standards
(1) - (9) RESERVED)

Delete current 7.26(10)-(16) and replace with the following:

(10) Perchloroethylene Air Emissions Standards for Dry Cleaning Facilities - Applicability.

- (a) Except as provided in 310 CMR 7.26(12)(a) and (b), each dry cleaning facility shall comply with the provisions of 310 CMR 7.26(10) through (16) beginning on May 2, 1997 or immediately upon startup, whichever is later. All coin-operated dry cleaning machines are exempt from the requirements of 310 CMR 7.26(10) through (16).
- (b) The provisions of 310 CMR 7.26(10) through (16) apply to the owner or operator of a dry cleaning facility that has:
 - 1. Only dry-to-dry machine(s) and has perchloroethylene consumption equal to or less than 2,100 gallons per 12-month rolling period as determined in accordance with 310 CMR 7.26(10)(c); or
 - 2. Only a transfer machine system(s) or both dry-to-dry machine(s) and transfer machine system(s) and has perchloroethylene consumption equal to or less than 1,800 gallons per 12-month rolling period as determined in accordance with 310 CMR 7.26(10)(c).
- (c) When calculating the perchloroethylene consumption for each 12-month rolling period for the purpose of determining applicability under 310 CMR 7.26(10)(a), the owner or operator shall sum on the first day of every month the volume of all perchloroethylene purchases made in each of the previous 12 months, as recorded in the log described in 310 CMR 7.26(15)(d)1.
- (d) Notwithstanding the foregoing, these regulations do not apply to dry-to-dry perchloroethylene dry cleaning facilities co-located with a residence, installed between December 21, 2005-July 13, 2006. N.B These dry-to-dry facilities are subject to the federal Maximum Available Control Technology (MACT) standards for perchloroethylene dry cleaning facilities (40 CFR Part 63, Subpart M).

(11) Definitions. The definitions found in 310 CMR 7.00 apply to 310 CMR 7.26(10) through (16). The following words and phrases shall have the following meanings as they appear in 310 CMR 7.26(10) through (16). Where a term is defined in the 310 CMR 7.00 Definitions and the definition also appears in 310 CMR 7.26(11), the definition in 310 CMR 7.26(11) controls for 7.26(10) through (16).

Ancillary equipment means the equipment used with a dry cleaning machine in a dry cleaning system including, but not limited to, emission control devices, pumps, filters, muck cookers, stills, solvent tanks, solvent containers, water separators, exhaust dampers, diverter valves, interconnecting piping, hoses, and ducts.

Articles mean clothing, garments, textiles, fabrics, leather goods, and the like, that are drycleaned.

Carbon adsorber means a bed of activated carbon into which an air-perchloroethylene gas-vapor stream is routed and which adsorbs the perchloroethylene on the carbon.

Co-located means a dry cleaning facility located in a building with a residence, a licensed day care center, a health care facility, a prison, an elementary school, a middle or high school, a children's pre-school, a senior center or a youth center.

Coin-operated dry cleaning machine means a dry cleaning machine that is operated by the customer (that is, the customer places articles into the machine, turns the machine on, and removes articles from the machine).

Colorimetric detector tube means a glass tube (sealed prior to use), containing material impregnated with a chemical that is sensitive to perchloroethylene and is designed to measure the concentration of perchloroethylene in air.

Construction means the fabrication (onsite), erection, or installation of a dry cleaning system subject to 310 CMR 7.26(10) through (16).

Desorption means regeneration of a carbon adsorber by removal of the perchloroethylene adsorbed on the carbon.

Diverter valve means a flow control device that prevents room air from passing through a refrigerated condenser when the door of the dry cleaning machine is open.

Dry cleaning means the process of cleaning articles using perchloroethylene.

Dry cleaning cycle means the washing and drying of articles in a dry-to-dry machine or transfer machine system.

Dry cleaning facility means an establishment with one or more dry cleaning systems.

Dry cleaning machine means a dry-to-dry machine or each machine of a transfer machine system.

Dry cleaning machine drum means the perforated container inside the dry cleaning machine that holds the articles during dry cleaning.

Dry cleaning system means a dry-to-dry machine and its ancillary equipment or a transfer machine system and its ancillary equipment.

Dryer means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see reclaimer).

Dry-to-dry machine means a one-machine dry cleaning operation in which washing and drying are performed in the same machine.

Exhaust damper means a flow control device that prevents the air-perchloroethylene gas-vapor stream from exiting the dry cleaning machine into a carbon adsorber before room air is drawn into the dry cleaning machine.

Filter means a porous device through which perchloroethylene is passed to remove contaminants in suspension. Examples include, but are not limited to, lint filter, button trap, cartridge filter, tubular filter, regenerative filter, prefilter, polishing filter, and spin disc filter.

Halogenated hydrocarbon detector means a portable device capable of detecting vapor concentrations of perchloroethylene of 25 parts per million by volume and indicating a concentration of 25 parts per million by volume or greater by emitting an audible or visual signal that varies as the concentration changes.

Heating coil means the device used to heat the air stream circulated from the dry cleaning machine drum, after perchloroethylene has been condensed from the air stream and before the stream reenters the dry cleaning machine drum.

Muck cooker means a device for heating perchloroethylene-laden waste material to volatilize and recover perchloroethylene.

PCE (Perchloroethylene)-gas analyzer means a flame ionization detector, photoionization detector, or infrared analyzer capable of detecting vapor concentrations of perchloroethylene of 25 parts per million by volume.

Perceptible leaks mean any perchloroethylene vapor or liquid leaks that are obvious from:

- (a) the odor of perchloroethylene;
- (b) visual observation, such as pools or droplets of liquid; or
- (c) the detection of gas flow by passing the fingers over the surface of equipment.

Perchloroethylene consumption means the total volume of perchloroethylene purchased based upon purchase receipts or other reliable measures.

Reclaimer means a machine used to remove perchloroethylene from articles by tumbling them in a heated air stream (see dryer).

Reconstruction means replacement of a washer, dryer, or reclaimer; or replacement of any components of a dry cleaning system to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new source.

Refrigerated condenser means a vapor recovery system into which an air-perchloroethylene gas-vapor stream is routed and the perchloroethylene is condensed by cooling the gas-vapor stream.

Refrigerated condenser coil means the coil containing the chilled liquid used to cool and condense the perchloroethylene.

Residence means any dwelling or housing in which people reside excluding short-term housing that is occupied by the same person for a period of less than 180 days (such as a hotel room).

Room enclosure means a stationary structure that encloses a transfer machine system, and is vented to a carbon adsorber or an equivalent control device during operation of the transfer machine system.

Secondary carbon adsorber means a carbon adsorber into which the air-perchloroethylene gas vapor stream from inside the dry cleaning machine drum is routed immediately before the door of the dry cleaning machine is opened.

Source means each dry cleaning system.

Still means any device used to volatilize and recover perchloroethylene from contaminated perchloroethylene.

Temperature sensor means a thermometer or thermocouple used to measure temperature.

Transfer machine system means a multiple-machine dry cleaning operation in which washing and drying are performed in different machines. Examples include, but are not limited to:

- (a) a washer and dryer(s);
- (b) a washer and reclaimer(s); or
- (c) a dry-to-dry machine and reclaimer(s).

Vapor leak means a perchloroethylene vapor concentration exceeding 25 parts per million by volume (50 parts per million by volume as methane) as indicated by a halogenated hydrocarbon detector or PCE gas analyzer.

Washer means a machine used to clean articles by immersing them in perchloroethylene. This includes a dry-to-dry machine when used with a reclaimer.

Water separator means any device used to recover perchloroethylene from a water-perchloroethylene mixture.

Year or Yearly means any consecutive 12-month period of time.

(12) Perchloroethylene Dry Cleaning Systems.

(a) Dry-to-Dry machine. An owner or operator of a dry-to-dry machine shall comply with the following requirements:

1. A dry-to-dry machine installed prior to December 9, 1991, shall be equipped with either a carbon adsorber or refrigerated condenser by September 22, 1993.
2. A dry-to-dry machine installed on or after December 9, 1991, shall be equipped with a refrigerated condenser.
3. A dry-to-dry machine installed on or after December 21, 2005 shall be equipped with a refrigerated condenser and a secondary carbon adsorber on or before [2 months after promulgation].
4. The installation of a new co-located dry-to-dry machine is prohibited as of [two months after promulgation].
5. All co-located dry-to-dry machines shall cease operation on or before:
 - a. For those dry cleaning facilities co-located on or before [2 months of promulgation], December 21, 2020.
 - b. For those dry cleaning facilities, which become co-located after [2 months of promulgation], on or before the end of the useful the life of the machine, not to exceed 15 years.
6. The installation of a new dry-to-dry machine(s) co-located with a residence is prohibited as of [promulgation].
7. All dry-to-dry machines co-located with a residence shall cease operation on or before:
 - a. For those dry cleaning facilities classified as co-located with a residence before December 21, 2005, December 21, 2020.
 - b. For those dry-to-dry facilities co-located with a residence, installed between July 13, 2006 and [promulgation], [2 months from promulgation].
 - c. For those dry cleaning facilities, which become co-located with a residence after [promulgation] on or at the end of the useful the life of the machine, not to exceed 15 years.
8. Shall comply with the operation, maintenance, testing, monitoring, recordkeeping and reporting requirements of 310 CMR 7.26(13) through (15), as applicable.

(b) Transfer machine system. The installation of transfer machine(s) is prohibited as of May 2, 1997. On or before September 22, 1993, all transfer machine systems shall be equipped with a carbon adsorber or a refrigerated condenser.

1. The owner or operator of a transfer machine system equipped with a refrigerated condenser shall:
 - a. Not vent the air-perchloroethylene gas-vapor contained within the washer to the atmosphere until the washer door is opened;
 - b. Monitor in accordance with 310 CMR 7.26(12)(b)2.;
 - c. Not use the same refrigerated condenser coil for the washer that is used by a dry-to- dry machine, dryer, or reclaimer; and
 - d. Ensure the temperature difference between the air-perchloroethylene gas-vapor stream entering the refrigerated condenser on a washer and the air-perchloroethylene gas-vapor stream exiting the refrigerated condenser on the washer is greater than or equal to 20°F (11.1°C).

2. The owner or operator shall calculate, on a weekly basis, the difference between the temperature of the air-perchloroethylene gas-vapor streams entering and exiting the refrigerated condenser on a washer and the temperature of the air-perchloroethylene gas-vapor stream. The owner or operator shall measure the inlet and outlet streams with a temperature sensor. Each temperature sensor shall be used according to the manufacturer's instructions, and designed to measure at least a temperature range from 32°F (0°C) to 120°F (48.9°C) to an accuracy of ± 2 °F (± 1.1 °C).
3. The owner or operator shall comply with the operation, maintenance, testing, monitoring, recordkeeping and reporting requirements of 310 CMR 7.26(13) through (15), as applicable
4. The owner or operator shall cease operation of their transfer machines on or before July 28, 2008.

(13) Operation and Maintenance Requirements.

(a) The owner or operator shall close the door of each dry cleaning machine immediately after transferring articles to or from the machine, and shall keep the door closed at all other times except during maintenance operations.

(b) The owner or operator of each dry cleaning system shall operate and maintain the system according to the manufacturers' specifications and recommendations.

(c) The owner or operator of a dry cleaning system equipped with a refrigerated condenser shall:

1. Not vent or release the air-perchloroethylene gas-vapor stream contained within the dry cleaning machine to the atmosphere while the dry cleaning machine drum is rotating;
2. Monitor the refrigerated condenser in accordance with 310 CMR 7.26(14)(a);
3. Operate the dry cleaning system with a diverter valve or equivalent design so as to prevent air drawn into the dry cleaning machine when the door of the machine is open from passing through the refrigerated condenser; and
4. Maintain the temperature of the air-perchloroethylene gas-vapor stream at the end of the cool down cycle on the outlet side of the refrigerated condenser on a dry-to-dry machine, dryer, or reclaimer at equal to or less than 45°F (7.2°C).

(d) The owner or operator of a dry cleaning system equipped with a primary or secondary carbon adsorber shall:

1. Not bypass the carbon adsorber or secondary carbon adsorber to vent or release any air-perchloroethylene gas-vapor stream to the atmosphere at any time; and
2. Monitor the carbon adsorber in accordance with the requirements in 310 CMR 7.26(14)(b) as applicable.

(e) If parameter values monitored under 310 CMR 7.26(13)(c) or (d), do not meet the values specified in 310 CMR 7.26(14)(a), or (b), the owner or operator shall make adjustments or repairs to the dry cleaning system or control device to meet those values. If repair parts must be ordered, either a written or verbal order for such parts shall be initiated within two working days of detecting such a parameter value. Such repair parts shall be installed as soon as possible, but in no case later than, five working days after receipt of the parts.

(f) The owner or operator of a dry cleaning system shall drain all cartridge filters in their housing, or other sealed container, for a minimum of 24 hours, or shall treat such filters in an equivalent manner, before removal from the dry cleaning facility.

(g) The owner or operator of a dry cleaning system shall store all perchloroethylene and wastes that contain perchloroethylene in solvent tanks or solvent containers with no perceptible leaks.

(h) The owner or operator of a dry cleaning system shall inspect the following components weekly for perceptible leaks while the dry cleaning system is operating:

1. Hose and pipe connections, fittings, couplings, and valves;
2. Door gaskets and seatings;
3. Filter gaskets and seatings;
4. Pumps;
5. Solvent tanks and containers;
6. Water separators;
7. Muck cookers;
8. Stills;
9. Exhaust dampers;
10. Diverter valves (if required); and
11. All filter housings.

(i) The owner or operator of a dry cleaning system shall inspect the components identified in 310 CMR 7.26(13)(h), at least weekly, for vapor leaks using one of the following methods or devices, operated in accordance with the manufacturer's instructions. If the dry cleaning system is equipped with a probe, the operator shall place the probe inlet near the surface of each component interface where leakage could occur and move it slowly along the interface periphery:

1. a halogenated-hydrocarbon detector;
2. a PCE gas analyzer; or
3. an alternative method approved by the Department. Sufficient documentation must be provided to the Department to support, for approval, the alternative method.

(j) The owner or operator of a dry cleaning system shall repair all leaks detected under 310 CMR 7.26(13)(h) and (i) within 24 hours. If repair parts must be ordered, either a written or verbal order for those parts shall be initiated within two working days of detecting such a leak. Such repair parts shall be installed as soon as possible but in no case later than five working days after receipt of the parts.

(k) Each owner or operator of a dry cleaning facility shall retain onsite a copy of the design specifications and the operating manuals for each dry cleaning system and each emission control device located at the dry cleaning facility.

(14) Test methods and monitoring.

(a) The owner or operator of a dry cleaning system equipped with a refrigerated condenser shall either:

1. Monitor, on a weekly basis, the refrigeration system high pressure and low pressure during the drying phase to determine if they are in the range specified in the manufacturers operating instructions; or
2. Measure the temperature of the air-perchloroethylene gas-vapor stream on the outlet side of the refrigerated condenser on a dry-to-dry machine, dryer, or reclaimer weekly with a temperature sensor to determine if it is equal to or less than 45°F (7.2°C). The temperature sensor shall be used according to the manufacturer's instructions and shall be designed to measure a temperature of 45°F (7.2°C) to an accuracy of ± 2 °F (± 1.1 °C).

(b) The owner or operator of a dry cleaning system equipped with a primary carbon adsorber shall measure, on a weekly basis, the concentration of perchloroethylene in the exhaust of the carbon adsorber weekly to determine that the perchloroethylene concentration in the exhaust is

equal to or less than 100 parts per million by volume. The measurement shall be taken while the dry cleaning machine is venting to the carbon adsorber at the end of the last dry cleaning cycle prior to desorption of the carbon adsorber. The owner or operator shall:

1. Use a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of perchloroethylene in air to an accuracy of ± 25 parts per million by volume; and
2. Use the colorimetric detector tube according to the manufacturer's instructions; and
3. Provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least eight stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and two stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet, or outlet.

(c) The owner or operator of a dry cleaning system equipped with a secondary carbon adsorber shall operate and maintain the system in accordance with the manufacturers specifications.

(15) Recordkeeping and Reporting Requirements.

(a) Each owner or operator of a dry cleaning facility shall submit to the Department a compliance certification in accordance with 310 CMR 70.00.

(b) Compliance Notification. Each owner or operator of a dry cleaning facility shall notify the Department, on forms provided by the Department, on or before September 15, 2008, and subsequently as required by 310 CMR 70.03, of the facility's compliance with the requirements contained in 310 CMR 7.26(10)-(16) and provide the following information:

1. The name and address of the owner or operator;
2. The name and address (that is, physical location) of the dry cleaning facility;
5. The type of each dry cleaning machine(s) and its serial number;
6. The installation date of each dry cleaning machine;
5. A description of the type of air pollution control device(s) used to comply with 310 CMR 7.26(12)(a) or (b) as applicable;
6. The most recent 12-month perchloroethylene quantity purchased, based on invoices or receipts;
7. Whether or not the dry cleaning facility is located in a building with a residence;
8. Whether or not the dry cleaning facility is located in a building with a leased space, another tenant, or owner occupant(s);
9. Whether or not the dry cleaning facility is co-located with sensitive populations such as a licensed day care centers, a health care facility, a prison, an elementary school, middle school or high school, a children's pre-school, a senior center or a youth center.
10. The compliance status of the facility; and
11. That all information submitted is in accordance with 310 CMR 7.01(2)(a)-(c).

(c) Change in status Notification. Each owner or operator of a dry cleaning facility shall submit a Change in Status Notification form to the Department by registered mail, when there is a change in ownership, a cessation of dry cleaning operations, a change to a non-perchloroethylene solvent, and provide the following information where applicable.

1. Change in Ownership: The specific date for transfer of responsibility, coverage, and liability between the current and new owner and operator within 60 days of the sale of the operation.

2. Cessation of operation: The specific date that operation of the dry cleaning system(s) ceased at the facility within 60 days of ceasing operation. This notification is also necessary when the facility changes to a “drop off” facility.
3. Cessation of perchloroethylene as the dry cleaning solvent: The specific date that perchloroethylene was no longer used as the dry cleaning solvent, the manufacturer of and type of cleaning solvent within 60 days of the change.

(d) Recordkeeping. Each owner or operator of a dry cleaning facility shall keep receipts of perchloroethylene purchases and a log of the following information, as applicable, and maintain such information up to date so the 12-month rolling period compliance can be determined, and on site for at least one year, and show it upon request for a period of at least three years:

1. The volume of perchloroethylene purchased each month for the dry cleaning facility as recorded from perchloroethylene invoices or receipts of purchases; if no perchloroethylene is purchased during a given month then the owner or operator would enter zero gallons into the log;
2. The calculation and result of the 12-month rolling period perchloroethylene consumption determined on the first day of each month as specified in 310 CMR 7.26(10)(c);
3. The dates when the dry cleaning system components were inspected for leaks, as specified in 310 CMR 7.26(13)(h) and (i), and the name or location of dry cleaning system components where leaks were detected;
4. The dates of repair and records of written or verbal orders for repair parts to demonstrate compliance with 310 CMR 7.26(13)(e) or (j);
5. The date and refrigeration system pressures or temperature sensor monitoring results, as specified in 310 CMR 7.26(14) if a refrigerated condenser is used to comply with 310 CMR 7.26(12)(a) or (b); and
6. The date and colorimetric detector tube monitoring results, as specified in 310 CMR 7.26(14), if a carbon adsorber is used to comply with 310 CMR 7.26(12)(a) or (b).

(16) Determination of Equivalent Emission Control Technology.

(a) Any person requesting that the use of certain equipment or procedures be considered equivalent to the requirements under 310 CMR 7.26(12) and (13) shall collect, verify, and submit to the Administrator the following information to show that the alternative achieves equivalent emission reductions:

1. Diagrams, as appropriate, illustrating the emission control technology, its operation and integration into or function with dry-to-dry machine(s) or transfer machine system(s) and their ancillary equipment during each portion of the normal dry cleaning cycle;
2. Information quantifying vented perchloroethylene emissions from the dry-to-dry machine(s) or transfer machine system(s) during each portion of the dry cleaning cycle with and without the use of the candidate emission control technology;
3. Information on solvent mileage achieved with and without the candidate emission control technology. Solvent mileage is the average weight of articles cleaned per volume of perchloroethylene used. Solvent mileage data must be of continuous duration for at least one year under the conditions of a typical dry cleaning operation. This information on solvent mileage must be accompanied by information on the design, configuration,

operation, and maintenance of the specific dry cleaning system from which the solvent mileage information was obtained;

4. Identification of maintenance requirements and parameters to monitor to ensure proper operation and maintenance of the candidate emission control technology;

5. Explanation of why this information is considered accurate and representative of both the short-term and the long-term performance of the candidate emission control technology on the specific dry cleaning system examined;

6. Explanation of why this information can or cannot be extrapolated to dry cleaning systems other than the specific system(s) examined; and

7. Information on the cross-media impacts (to water and solid waste) of the candidate emission control technology and demonstration that the cross-media impacts are less than or equal to the cross-media impacts of a refrigerated condenser.

(b) An owner or operator granted an equivalency determination of their emission control equipment from the Administrator shall notify the Department of the Administrator's determination prior to operation of the dry cleaning system.